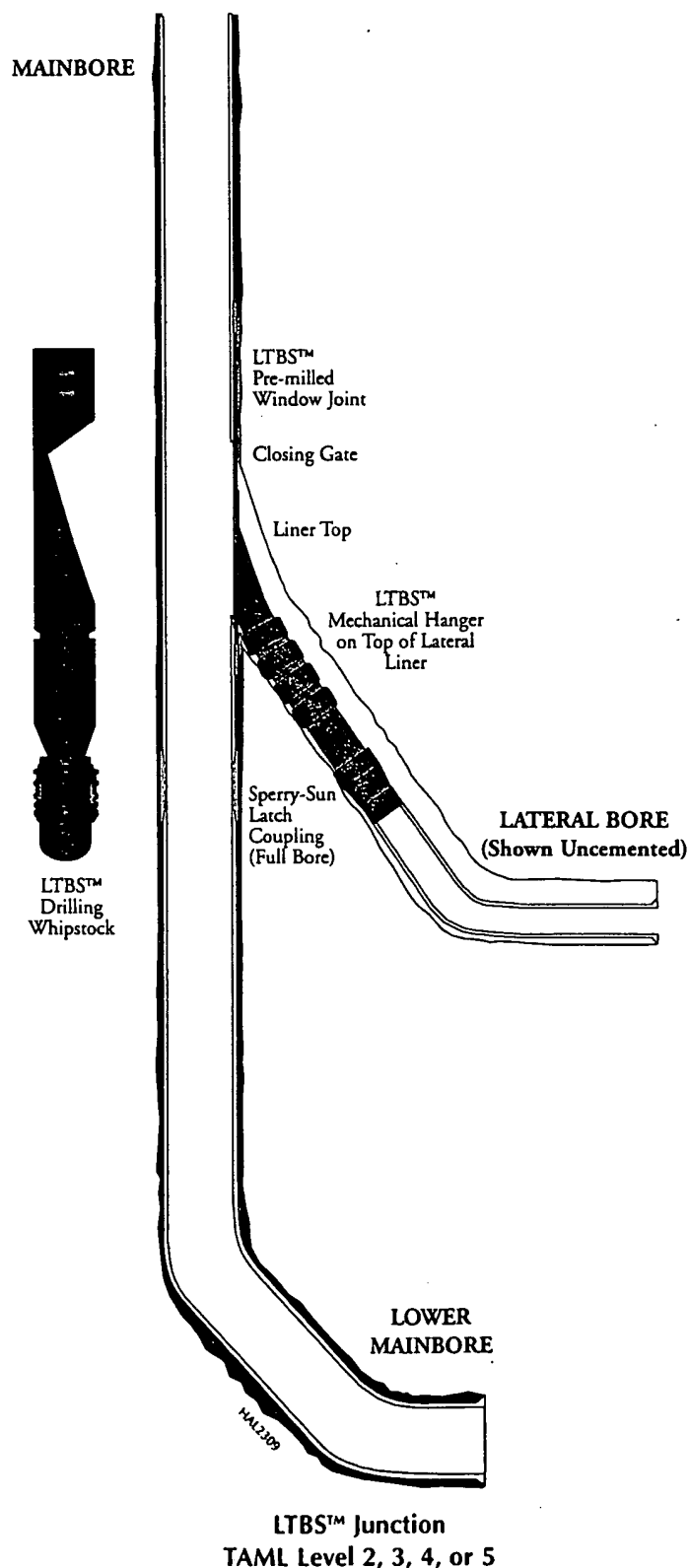


# Multilateral Services *Profile*

## LTBS™ Lateral Tie-Back System

## LatchMaster™ Pre-milled Window Systems



### Application

The LTBS™ system is designed primarily to create a level 3 junction for multilateral wells that require a mechanical tie-back to the main casing string without using cement. The mechanical tie-back allows a lateral liner to be hung in tension and gives a high mechanical integrity. The LTBS™ system may also be used to create level 2 systems that have an open lateral or use a drop liner. If both strong mechanical and hydraulic pressure integrity at the junction is required, then the lateral liner can be cemented to create a level 4 junction. The LTBS™ system is designed for use in new wells drilled from land or offshore locations with a wide range of potential applications. LTBS™ applications primarily have been used to maximize production per wellhead location by increasing reservoir exposure. In many cases, a single conventional well has been rendered economic by the addition of multiple level 2 or 3 laterals. Other applications include in-fill development, slot-constrained platforms, access to discrete zones or blocks with bypassed reserves, and areas where environmental considerations require minimum wellhead sites. The LTBS™ system is the forefather of modern day multilateral systems that incorporates mechanical connectivity at the junction.

### Features

- Pre-milled LTBS™ window joint with orienting latch coupling
- Milling free system for maximum debris control
- Unrestricted full-bore access to completed mainbore
- Reduced access to completed lateral
- Maximum mechanical strength of lateral liner connection to mainbore casing
- Precise depth and azimuth control using latch coupling

### Benefits

- Applicable to new wells
- Can be completed as a level 2, 3, 4, or 5 junction
- Can be developed bottom up or top down as required
- No milling or washover required to re-open the mainbore
- Full drift ID through completed mainbore
- High mechanical integrity of level 3 and 4 junctions
- Permanent downhole latch coupling reference for depth and orientation control
- Junction can be completed with a through-tubing LRST™ lateral re-entry system to lateral
- Junction can be completed and isolated with level 5 MSCS® multi-string completion system
- Compatible with all SmartWell™ designs

# Multilateral Services *Specifications*

## LTBS™ Lateral Tie-Back System

## LatchMaster™ Pre-milled Window Systems



### Typical Installation Sequence

- Install mainbore casing/liner with window joint and cement in place.
- Run in hole and pull inner isolation sleeve.
- Drill and line mainbore sections as required (optional).
- Run in hole and set drilling whipstock.
- Drill lateral as required.
- Run in hole lateral liner with custom hanger and gate closing tools. Install liner and hang-off.
- Retrieve drilling whipstock with pulling tool to re-open mainbore.
- Install completion and flow well.

LTBS™ System Specifications			
TAME Level 2, 3, 4, or 5			
System casing size	7 in. 177.8 mm	9-5/8 in. 244.5 mm	10-3/4 in. 273 mm
Casing weight	23-29 lb/ft	47-53 lb/ft	55-60 lb/ft
Window type	Pre-milled		
Lateral liner type	None, drop liner, mechanical tie-back, cemented, mechanical tie-back		
Lateral hole size	4-3/4 in. 120.6 mm	6-1/2 in. 165.1 mm	7-7/8 in. 200 mm
Lateral liner size	4-1/2 in. 114.3 mm	5 in. 127 mm	6-1/2 in. 165.1 mm
Lower mainbore access	Full gauge 6.059 in.	Full gauge 8.525 in.	Full gauge 9.504 in.

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DRILLING SERVICES

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